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Website:http://biz.LGservice.com

COLOR MONITOR
SERVICE MANUAL

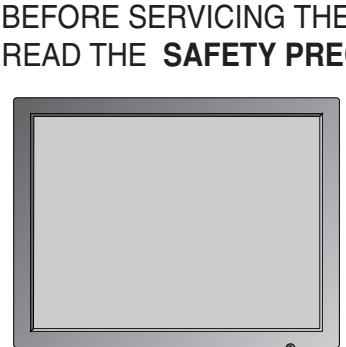
CHASSIS NO. : LM74B

MODEL: FLATRON L207WT(L207WT-PFS.AHAP)**

( ) **Same model for Service

CAUTION

BEFORE SERVICING THE UNIT,
READ THE **SAFETY PRECAUTIONS** IN THIS MANUAL.



*To apply the **MSTAR Chip**.

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PRECAUTION

WARNING FOR THE SAFETY-RELATED COMPONENT.

- There are some special components used in LCD monitor that are important for safety. ***These parts are marked ⚠ on the schematic diagram and the replacement parts list.*** It is essential that these critical parts should be replaced with the manufacturer's specified parts to prevent electric shock, fire or other hazard.
- Do not modify original design without obtaining written permission from manufacturer or you will void the original parts and labor guarantee.

TAKE CARE DURING HANDLING THE LCD MODULE WITH BACKLIGHT UNIT.

- Must mount the module using mounting holes arranged in four corners.
- Do not press on the panel, edge of the frame strongly or electric shock as this will result in damage to the screen.
- Do not scratch or press on the panel with any sharp objects, such as pencil or pen as this may result in damage to the panel.
- Protect the module from the ESD as it may damage the electronic circuit (C-MOS).
- Make certain that treatment person's body are grounded through wrist band.
- Do not leave the module in high temperature and in areas of high humidity for a long time.
- The module not be exposed to the direct sunlight.
- Avoid contact with water as it may a short circuit within the module.
- If the surface of panel become dirty, please wipe it off with a softmaterial. (Cleaning with a dirty or rough cloth may damage the panel.)

⚠ CAUTION

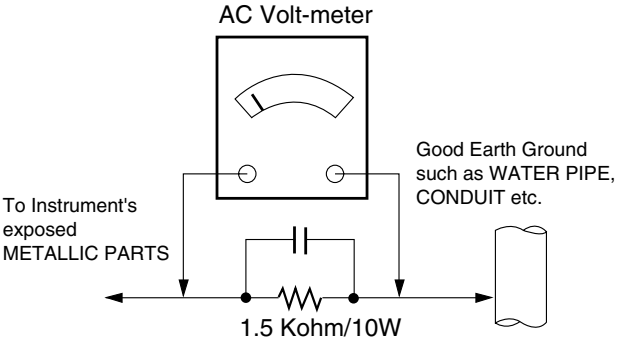
Please use only a plastic screwdriver to protect yourself from shock hazard during service operation.

⚠ WARNING

BE CAREFUL ELECTRIC SHOCK !

- If you want to replace with the new backlight (CCFL) or inverter circuit, must disconnect the AC adapter because high voltage appears at inverter circuit about 650Vrms.
- Handle with care wires or connectors of the inverter circuit. If the wires are pressed cause short and may burn or take fire.

Leakage Current Hot Check Circuit



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SERVICING PRECAUTIONS

CAUTION: Before servicing receivers covered by this service manual and its supplements and addenda, read and follow the ***SAFETY PRECAUTIONS*** on page 3 of this publication.

NOTE: If unforeseen circumstances create conflict between the following servicing precautions and any of the safety precautions on page 3 of this publication, always follow the safety precautions. Remember: Safety First.

General Servicing Precautions

1. Always unplug the receiver AC power cord from the AC power source before;
   a. Removing or reinstalling any component, circuit board module or any other receiver assembly.
   b. Disconnecting or reconnecting any receiver electrical plug or other electrical connection.
   c. Connecting a test substitute in parallel with an electrolytic capacitor in the receiver.
      CAUTION: A wrong part substitution or incorrect polarity installation of electrolytic capacitors may result in an explosion hazard.
   d. Discharging the picture tube anode.
2. Test high voltage only by measuring it with an appropriate high voltage meter or other voltage measuring device (DVM, FETVOM, etc) equipped with a suitable high voltage probe.
   Do not test high voltage by "drawing an arc".
3. Discharge the picture tube anode only by (a) first connecting one end of an insulated clip lead to the degaussing or kine aquadag grounding system shield at the point where the picture tube socket ground lead is connected, and then (b) touch the other end of the insulated clip lead to the picture tube anode button, using an insulating handle to avoid personal contact with high voltage.
4. Do not spray chemicals on or near this receiver or any of its assemblies.
5. Unless specified otherwise in this service manual, clean electrical contacts only by applying the following mixture to the contacts with a pipe cleaner, cotton-tipped stick or comparable non-abrasive applicator; 10% (by volume) Acetone and 90% (by volume) isopropyl alcohol (90%-99% strength)
   CAUTION: This is a flammable mixture.
   Unless specified otherwise in this service manual, lubrication of contacts in not required.
6. Do not defeat any plug/socket B+ voltage interlocks with which receivers covered by this service manual might be equipped.
7. Do not apply AC power to this instrument and/or any of its electrical assemblies unless all solid-state device heat sinks are correctly installed.
8. Always connect the test receiver ground lead to the receiver chassis ground before connecting the test receiver positive lead.
   Always remove the test receiver ground lead last.
9. *Use with this receiver only the test fixtures specified in this service manual.*
   CAUTION: Do not connect the test fixture ground strap to any heat sink in this receiver.

Electrostatically Sensitive (ES) Devices

Some semiconductor (solid-state) devices can be damaged easily by static electricity. Such components commonly are called *Electrostatically Sensitive (ES) Devices.* Examples of typical ES devices are integrated circuits and some field-effect transistors and semiconductor "chip" components. The following techniques should be used to help reduce the incidence of component damage caused by static by static electricity.

1. Immediately before handling any semiconductor component or semiconductor-equipped assembly, drain off any electrostatic charge on your body by touching a known earth ground. Alternatively, obtain and wear a commercially available discharging wrist strap device, which should be removed to prevent potential shock reasons prior to applying power to the unit under test.
2. After removing an electrical assembly equipped with ES devices, place the assembly on a conductive surface such as aluminum foil, to prevent electrostatic charge buildup or exposure of the assembly.
3. Use only a grounded-tip soldering iron to solder or unsolder ES devices.
4. Use only an anti-static type solder removal device. Some solder removal devices not classified as "anti-static" can generate electrical charges sufficient to damage ES devices.
5. Do not use freon-propelled chemicals. These can generate electrical charges sufficient to damage ES devices.
6. Do not remove a replacement ES device from its protective package until immediately before you are ready to install it. (Most replacement ES devices are packaged with leads electrically shorted together by conductive foam, aluminum foil or comparable conductive material).
7. Immediately before removing the protective material from the leads of a replacement ES device, touch the protective material to the chassis or circuit assembly into which the device will be installed.
   CAUTION: Be sure no power is applied to the chassis or circuit, and observe all other safety precautions.
8. Minimize bodily motions when handling unpackaged replacement ES devices. (Otherwise harmless motion such as the brushing together of your clothes fabric or the lifting of your foot from a carpeted floor can generate static electricity sufficient to damage an ES device.)

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General Soldering Guidelines

1. Use a grounded-tip, low-wattage soldering iron and appropriate tip size and shape that will maintain tip temperature within the range or 500◦F to 600◦F.
2. Use an appropriate gauge of RMA resin-core solder composed of 60 parts tin/40 parts lead.
3. Keep the soldering iron tip clean and well tinned.
4. Thoroughly clean the surfaces to be soldered. Use a mall wire-bristle (0.5 inch, or 1.25cm) brush with a metal handle.
   Do not use freon-propelled spray-on cleaners.
5. Use the following unsoldering technique
   a. Allow the soldering iron tip to reach normal temperature.
      (500◦F to 600◦F)
   b. Heat the component lead until the solder melts.
   c. Quickly draw the melted solder with an anti-static, suction-type solder removal device or with solder braid.
      CAUTION: Work quickly to avoid overheating the circuitboard printed foil.
6. Use the following soldering technique.
   a. Allow the soldering iron tip to reach a normal temperature (500◦F to 600◦F)
   b. First, hold the soldering iron tip and solder the strand against the component lead until the solder melts.
   c. Quickly move the soldering iron tip to the junction of the component lead and the printed circuit foil, and hold it there only until the solder flows onto and around both the component lead and the foil.
      CAUTION: Work quickly to avoid overheating the circuit board printed foil.
   d. Closely inspect the solder area and remove any excess or splashed solder with a small wire-bristle brush.

IC Remove/Replacement

Some chassis circuit boards have slotted holes (oblong) through which the IC leads are inserted and then bent flat against the circuit foil. When holes are the slotted type, the following technique should be used to remove and replace the IC. When working with boards using the familiar round hole, use the standard technique as outlined in paragraphs 5 and 6 above.

Removal

1. Desolder and straighten each IC lead in one operation by gently prying up on the lead with the soldering iron tip as the solder melts.
2. Draw away the melted solder with an anti-static suction-type solder removal device (or with solder braid) before removing the IC.

Replacement

1. Carefully insert the replacement IC in the circuit board.
2. Carefully bend each IC lead against the circuit foil pad and solder it.
3. Clean the soldered areas with a small wire-bristle brush. (It is not necessary to reapply acrylic coating to the areas).

"Small-Signal" Discrete Transistor Removal/Replacement

1. Remove the defective transistor by clipping its leads as close as possible to the component body.
2. Bend into a "U" shape the end of each of three leads remaining on the circuit board.
3. Bend into a "U" shape the replacement transistor leads.
4. Connect the replacement transistor leads to the corresponding leads extending from the circuit board and crimp the "U" with long nose pliers to insure metal to metal contact then solder each connection.

Power Output, Transistor Device Removal/Replacement

1. Heat and remove all solder from around the transistor leads.
2. Remove the heat sink mounting screw (if so equipped).
3. Carefully remove the transistor from the heat sink of the circuit board.
4. Insert new transistor in the circuit board.
5. Solder each transistor lead, and clip off excess lead.
6. Replace heat sink.

Diode Removal/Replacement

1. Remove defective diode by clipping its leads as close as possible to diode body.
2. Bend the two remaining leads perpendicular y to the circuit board.
3. Observing diode polarity, wrap each lead of the new diode around the corresponding lead on the circuit board.
4. Securely crimp each connection and solder it.
5. Inspect (on the circuit board copper side) the solder joints of the two "original" leads. If they are not shiny, reheat them and if necessary, apply additional solder.

Fuse and Conventional Resistor Removal/Replacement

1. Clip each fuse or resistor lead at top of the circuit board hollow stake.
2. Securely crimp the leads of replacement component around notch at stake top.
3. Solder the connections.
   CAUTION: Maintain original spacing between the replaced component and adjacent components and the circuit board to prevent excessive component temperatures.

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Circuit Board Foil Repair

Excessive heat applied to the copper foil of any printed circuit board will weaken the adhesive that bonds the foil to the circuit board causing the foil to separate from or "lift-off" the board. The following guidelines and procedures should be followed whenever this condition is encountered.

At IC Connections

To repair a defective copper pattern at IC connections use the following procedure to install a jumper wire on the copper pattern side of the circuit board. (Use this technique only on IC connections).

1. Carefully remove the damaged copper pattern with a sharp knife. (Remove only as much copper as absolutely necessary).
2. carefully scratch away the solder resist and acrylic coating (if used) from the end of the remaining copper pattern.
3. Bend a small "U" in one end of a small gauge jumper wire and carefully crimp it around the IC pin. Solder the IC connection.
4. Route the jumper wire along the path of the out-away copper pattern and let it overlap the previously scraped end of the good copper pattern. Solder the overlapped area and clip off any excess jumper wire.

At Other Connections

Use the following technique to repair the defective copper pattern at connections other than IC Pins. This technique involves the installation of a jumper wire on the component side of the circuit board.

1. Remove the defective copper pattern with a sharp knife.
   Remove at least 1/4 inch of copper, to ensure that a hazardous condition will not exist if the jumper wire opens.
2. Trace along the copper pattern from both sides of the pattern break and locate the nearest component that is directly connected to the affected copper pattern.
3. Connect insulated 20-gauge jumper wire from the lead of the nearest component on one side of the pattern break to the lead of the nearest component on the other side.
   Carefully crimp and solder the connections.
   CAUTION: Be sure the insulated jumper wire is dressed so the it does not touch components or sharp edges.

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SPECIFICATIONS

1. LCD CHARACTERISTICS

Type	: TFT Color LCD Module
Active Display Area	: 20.1 inch
Pixel Pitch	: 0.258 (H) x 0.258 (V)
Color Depth	: 16.7M colors(6bit + FRC data)
Size	: 459.4 (H) x 296.4 (V) x 16.6(D)
Electrical Interface	: LVDS
Surface Treatment	: Hard-coating(3H), Anti-Glare
Operating Mode	: Normally White
Backlight Unit	: 4-CCFL

2. OPTICAL CHARACTERISTICS

2-1. Viewing Angle by Contrast Ratio ≥ 10

Left : -80° min., -85°(Typ) Right : +80° min., +85°(Typ)
Top :+80° min., +85°(Typ) Bottom : -80° min., -85°(Typ)

2-2. Luminance : 180(Typ) (Typ. ±30)-**SRGB**
: 220(min), 300(Typ) (Full White pattern, 0.70V) -**6500K**
: 150(min) (Full White pattern, 0.70V) -**9300K**
: 75%(min), 80%(typ)

2-3. Contrast Ratio : 500(min), 1000(Typ) DFC -> 5000 : 1(TYP) -> 4250 : 1(MIN)

3. SIGNAL (Refer to the Timing Chart)

3-1. Sync Signal
- Type : Separate Sync, Digital, SOG

3-2. Video Input Signal

1) Type	: R, G, B Analog
2) Voltage Level	: 0~0.71 V
a) Color 0, 0	: 0 Vp-p
b) Color 7, 0	: 0.467Vp-p
c) Color 15, 0	: 0.714Vp-p
3) Input Impedance	: 75Ω

3-3. Operating Frequency

Horizontal(Analog)	: 30 ~ 83kHz
Horizontal(Digital)	: 30 ~ 83kHz
Vertical	: 56 ~ 75Hz

4. Max. Resolution

D-sub Analog	: 1680 x 1050@60Hz
Digital	: 1680 x 1050@60Hz

5. POWER SUPPLY

5-1. Power : AC 100-240V~, 50/60Hz , 0.8A

5-2. Power Consumption

MODE	H/V SYNC	VIDEO	POWER CONSUMPTION	LED COLOR
POWER ON (NORMAL)	ON/ON	ACTIVE	less than 45W(max) less than 40W(typ)	BLUE
STAND-BY	OFF/ON	OFF	less than 1 W	AMBER
SUSPEND	ON/OFF	OFF	less than 1 W	AMBER
DPMS OFF	OFF/OFF	OFF	less than 1 W	AMBER
POWER S/W OFF	-	-	less than 1 W	OFF

6. ENVIRONMENT

6-1. Operating Temperature : 10°C~35°C (50°F~95°F) (Ambient)
6-2. Relative Humidity : 10%~80% (Non-condensing)
6-3. MTBF : 50,000 HRS with 90% Confidence
Lamp Life : 50,000 Hours(Min)

7. DIMENSIONS (with TILT/SWIVEL)

Width	: 471.8 mm (18.57")
Depth	: 230 mm (9.06")
Height	: 399.7 mm (15.74")

8. WEIGHT (with TILT/SWIVEL)

Net. Weight	: 3.9 kg (8.60 lbs)
Gross Weight	: 5.0 kg (11.02 lbs)

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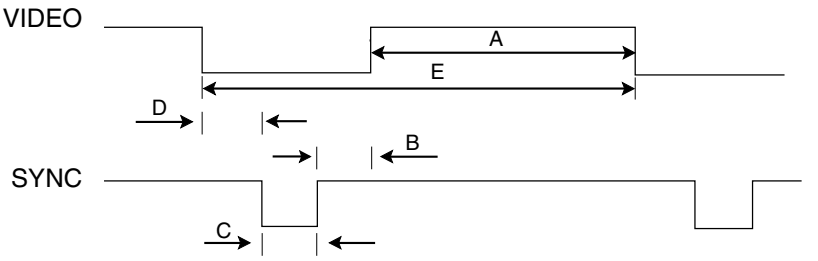
TIMING CHART



MODE	H / V	Sync Polarity	Dot Clock	Frequency	Total Period (E)	Video Active Time (A)	Sync Duration (D)	Front Porch (C)	Blanking Time (B)	Resolution
1	H(Pixels)	-	28.321	31.468	900	720	18	108	54	720 X 400
	V(Lines)	+		70.08	449	400	12	2	35	
2	H(Pixels)	-	25.175	31.469	800	640	16	96	48	640 x 480
	V(Lines)	-		59.94	525	480	10	2	33	
3	H(Pixels)	-	31.5	37.5	840	640	16	64	120	640 x 480
	V(Lines)	-		75	500	480	1	3	16	
4	H(Pixels)	+	40.0	37.879	1056	800	40	128	88	800 x 600
	V(Lines)	+		60.317	628	600	1	4	23	
5	H(Pixels)	+	49.5	46.875	1056	800	16	80	160	800 x 600
	V(Lines)	+		75.0	625	600	1	3	21	
6	H(Pixels)	-	65.0	48.363	1344	1024	24	136	160	1024 x 768
	V(Lines)	-		60.0	806	768	3	6	29	
7	H(Pixels)	-	78.75	60.123	1312	1024	16	96	176	1024 x 768
	V(Lines)	-		75.029	800	768	1	3	28	
8	H(Pixels)	+/-	108.0	67.500	1600	1152	64	128	256	1152 x 864
	V(Lines)	+/-		75.000	900	864	1	3	32	
9	H(Pixels)	+	108.0	63.981	1688	1280	48	112	248	1280 x 1024
	V(Lines)	+		60.02	1066	1024	1	3	38	
10	H(Pixels)	+	135.0	79.976	1688	1280	16	144	248	1280 x 1024
	V(Lines)	+		75.035	1066	1024	1	3	38	
11	H(Pixels)	+	119	64.674	1840	1680	48	32	80	1680x1050
	V(Lines)	-		59.883	1080	1050	3	6	21	
12	H(Pixels)	-	146.25	65.290	2240	1680	104	176	280	1680x1050
	V(Lines)	+		59.954	1089	1050	3	6	30	

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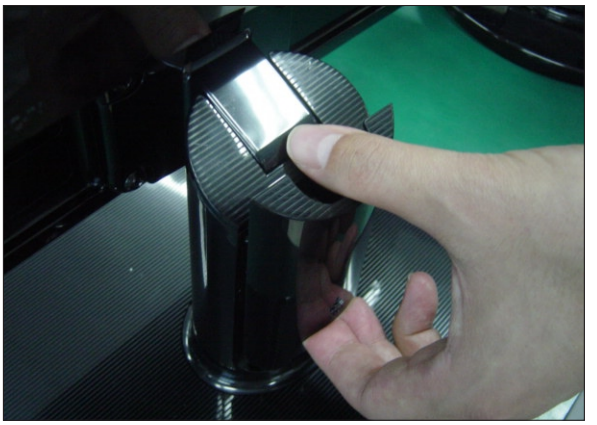
DISASSEMBLY

 # 1

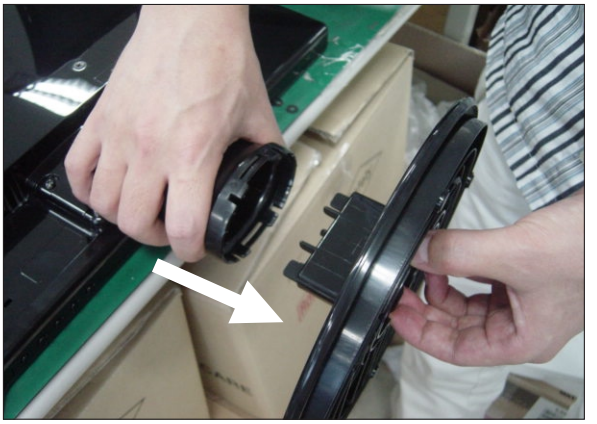


Disassemble Cable cover

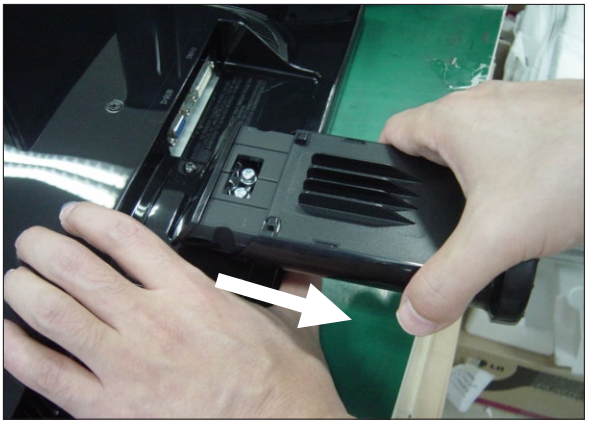
 # 2-1

Pushing Latch inside, Take the stand base from stand body. (#2-1~2)

 # 2-2



 # 3

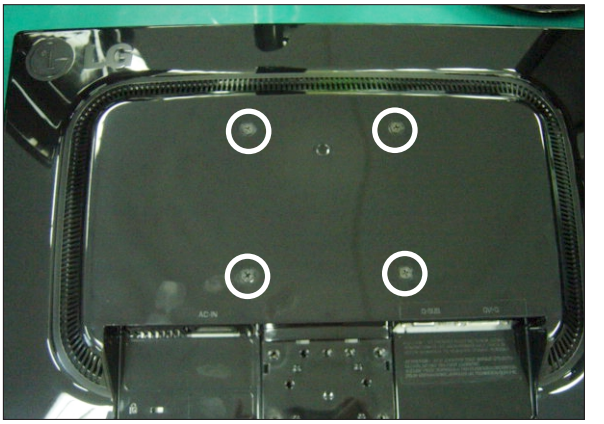


Disassemble Stand Body

 # 4

Remove the screws.

 # 5



Remove the screws.

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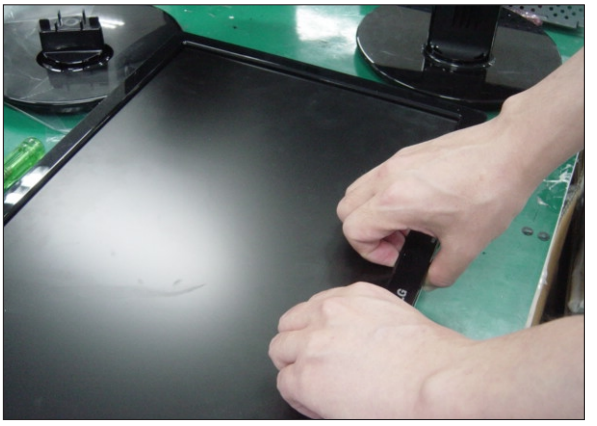
 # 6



1. Pull the front cover upward.
2. Then, let the latches are separated.
3. Put the front face down.

 # 7

Disassemble back cover.

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ADJUSTMENT INSTRUCTION

1. Coverage

Apply to 20" Wide monitor made in Monitor Factory(Kumi Korea) or made in accordance with the standard of Kumi Factory process.

2. Appointment

2.1 Adjustment must be done as fixed sequence, and adjustment sequence can be modified after agreement with the responsible R&D engineer considering mass-production condition.

2.2 Power : AC100~240 Voltage (Free)

2.3 Input signal : As Product Standard (Signal ROM : L204WT Ver1.1)

2.4 Warm-up Time : Over than 30 minutes

2.5 Adjustment equipment : White balance equipment (CA-110/210), Display adjust equipment, VG-819(or VG828), Oscilloscope, PC (More than 486 computer) & White balance adjust program. HDCP Adjusting Jig equipment

3. Adjustment

3.1 Overview

Use factory automation equipment and adjust automatic movement. But, do via passivity adjust in error occurrence.

3.2 Adjustment order(refer to the Adjustment standard and adjustment command table)

3.2.1 Board Assembly Line

- Connect input signal to 15pin D-sub.
- Ready for adjustment : check whether adjustment command works normally or not and the operating state of each mode.
- Check the display state of gray color when 256 gray scale pattern is embodied.
- Read by EEPROM Read Command to check whether initial value is correct or not.

3.2.2 Total Assembly Line

- Input analog signal. (1680x1050@60Hz)
- Write HDCP Key to EEPROM(24C16) by using DDC2AB protocol & HDCP Adjusting Jig equipment (Address 0xAC 80, 289 bytes)
- If error is occurred, write and check again.
- Ready : Heat-run during 30 minutes in the state with signal.
- Connect input signal to D-sub.
- Default value before adjustment : Contrast "70" , Brightness "100(Max)"

3.2.3 Adjustment of Horizontal/Verticality screen position, Clock and Clock Phase at each Mode.

- There is no special factory mode adjustment. Writing initial value of EEPROM in Board Assembly line is adjusting Preset Mode and Reset mode. (EEPROM is initialized when AC Power is ON first.)
- If the change of FOS data is needed after M.P, it is possible by writing Mode Data with EEPROM write command or modifying the Mode Data in MICOM itself.

Caution) Must keep power-on more than 3 seconds after AC Power-on first time.

3.2.4 Color coordinates adjustment and Luminance adjustment.

3.2.4.1 Color coordinates adjustment

- Monitor Contrast / Brightness
  - Contrast : 70
  - Brightness : 100(Max)
- CA-110 / CA-210 : Set "Channel 13" -> CA-210 for WCG panel
- Signal Generator : At cut-off and drive -> 16 step pattern for ADC
  - Output Voltage : 700 mVp-p
  - Output Mode : Mode 12 (WSXGA 60 Hz) mode Setting.

3.2.4.2.Adjustment : Board Assembly Line

- Input 16 step pattern for ADC (Mode 12,Pattern 11). (Video level : 700mVp-p)
- Adjust by commanding AUTO_COLOR_ADJUST
- Confirm "Success" message in Screen or Check the data of 0xFE,0xFF address of EEPROM(0xA6) is 0xAA after waiting 5 seconds.
- If there is "FAULT" message or the data of 0xFE,0xFF address of EEPROM(0xA6) is not 0xAA, do adjust again.
- If all Adjustment is completed, the values of 6500K, User Color and 9300K are saved automatically. Do not Adjust 6500K for L207WT.

3.2.4.3. Confirm at Total Assembly Line : adjustment

- Check the data of 0xFE,0xFF address of EEPROM(0xA6) is 0xAA.
- If the data of 0xFE,0xFF address of EEPROM(0xA6) is not 0xAA, do adjust again by 3.2.4.2.

3.2.4.4. Confirm PRESET 6500K Color coordinates and Adjust PRESET 9300K Color coordinates .

- Set as Aging mode ON, by commanding AGING_ON/OFF command code.
- Select Module that is being used in present production by commanding MODULE SELECT.
- Send SYSTEM RESET command to set Module data.
- Input Full White Pattern (Video level : 700 mVp-p)
- Set as 9300K by commanding COLOR_MODE_CHANGE Command code.
- Adjust to meet x = 0.283 ± 0.004, y=0.298° ± 0.004, and confirm.
- Save 9300K Color by commanding COLOR SAVE Command code.
- Input Full White Pattern (Video level : 700 mVp-p)
- Set as 6500K by commanding COLOR_MODE_CHANGE Command code.
- 6500K color adjustment
  Do not adjust for L207WT model.
  It is adjust to meet x=0.313±0.03, y=0.329± 0.03
- Set as sRGB by commanding COLOR_MODE_CHANGE Command code.
- Adjust to meet Y = 180 ±10, and confirm.

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3.2.4.5. Confirm User color coordinates .

- Confirm Whether User color is saved same as 6500K.
- After confirming Color coordinates, Must return to 6500K.
- Confirm whether user color is 50. If the value of user color(R/G/B) is 30, do adjust again by 3.2.4.2.

3.2.5 Confirm Operation state.

3.2.5.1 Operation mode : Confirm whether each appointed mode operate correctly or not.

3.2.5.2 Confirmation of Adjustment condition and operation : Confirm whether it meet Auto/Manual equipement Adjustment standard or not.

- Confirm Analog screen state : Confirm screen state at below mode.
  Appointment mode : 640*480 @ 60Hz (Mode 2), 800*600@75Hz(Mode 5)
  1024*768@60Hz(Mode6), 1280*1024@60Hz(Mode 9),
  1680*1024@60Hz(Mode 12)
  SMPTE pattern(Check 0%,5%,95%,100%) –Mode can be added.
- Check HDCP signal screen by using Video generator that generate HDCP signal

3.2.5.3. Confirm Auto adjustment operation.

- Input Analog 1 Dot on/off & Rectangle Pattern at Mode 12(1680*1050@60Hz).
- Confirm adjustment operation by changing Clock,Phase,H/V Position.
- Check Clock,Phase by pressing AUTO Key.
- Confirm first set of new lot by periods

3.2.5.4 Other quality

- Confirm that each items satisfy under standard condition that was written product spec.
- Confirm Applying Module & MICOM Setting -> Confirm with Service OSD

-> Confirm at Service OSD by "Menu + Powerkey" on .(from Power off)

-> Confirm first set of new lot by periods, and confirm periodically when there is Process change or Adjustment setting change.

3.2.5.5. OSD & Adjustment device Confirmation : Confirm operation mentioned as product spec.

- Vary Brightness and Contrast and confirm the variation of Luminance and display status.
- Operate the F-engine function and confirm variation of Luminance.
- Make sure to do FACTORY RESET after confirmation of OSD function.

3.2.5.6. Confirm the display state by inputting 8 color Bar Pattern & 256 Gray Scale pattern.

3.2.5.7. DPM operation confirmation : Check if Power LED Color and Power Consumption operates as standard.

- Measurement Condition : 230V@ 50Hz (Analog)
- Confirm DPM operation at the state of screen without Video Signal.(refer to Spec at Page 11)

3.2.5.8. DDC EDID Write (Set as Aging mode ON, by commanding AGING_ON/OFF command code.)

- Digital part EDID data

- Confirm whether module selection is correct or not on the self-diagnostics OSD with signal cable disconnected.
- Connect Digital Signal Cable to DVI-D wafer.
- Write EDID DATA to EEPROM(24C02) by using DDC2B protocol.
- Check whether written EDID data is correct or not. (refer to Product spec).-Analog part EDID data

- Analog part EDID data

- Connect analog Signal Cable to D-sub wafer.
- Write EDID DATA to EEPROM(24C02) by using DDC2B protocol.£®NOVATEK dual and odc model£©
- Write EDID DATA to EEPROM(24C02) by using DDC2AB protocol.£®Mstar dual model£©
- Check whether written EDID data is correct or not. (refer to Product spec).
- Connect analog Signal Cable to D-sub wafer.
- Write EDID DATA to EEPROM(24C02) by using DDC2B protocol.
- Check whether written EDID data is correct or not.(refer to Product spec).

-> After writing EDID, send Elapsed Time Clear command. (Elapsed time should not be displayed, after EDID writing)

: Confirm periodically (in the first set of new lot, process change) whether module name and aging time disappeared on the self-diagnostics OSD with signal cable disconnected.

-> If Elapsed Time Clear command isn't executed, module name, aging time and TCO word appear on the self-diagnostics OSD.(Module name and aging time should not appear after writing EDID)

-> Make sure to do FACTORY RESET at the final process.

3.2.5.9. Shipping condition

- Contrast : 70
- Power Switch : Off
- Brightness : "100(Max)"
- Color Select : Preset (6500K)
- Language Select : Refer to product spec.
- OSD Position : Center
- Power indicator : ON
- Flatron F-engine : Normal

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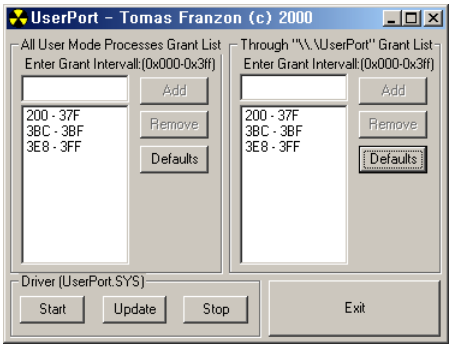
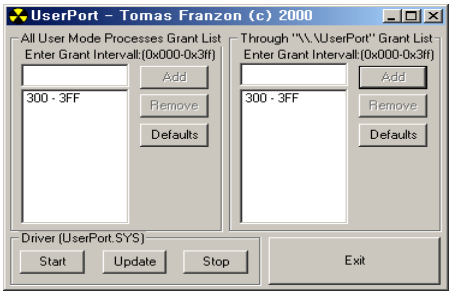
Windows EDID V1.0 User Manual

Operating System: MS Windows 98, 2000, XP
Port Setup: Windows 98 => Don't need setup
Windows 2000, XP => Need to Port Setup.
This program is available to LCD Monitor only.

1. Port Setup
   a) Copy "UserPort.sys" file to
   "c:\WINNT\system32\drivers" folder
   b) Run Userport.exe

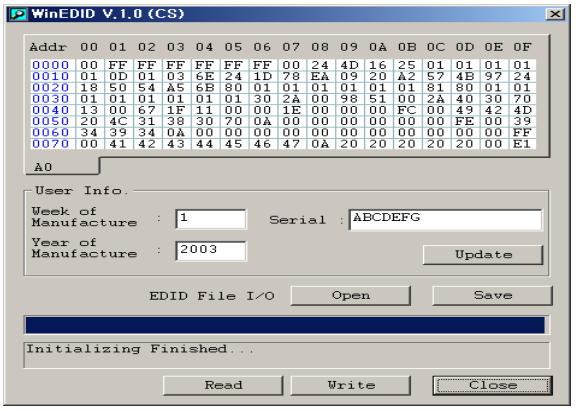


   c) Remove all default number
   d) Add 300-3FF

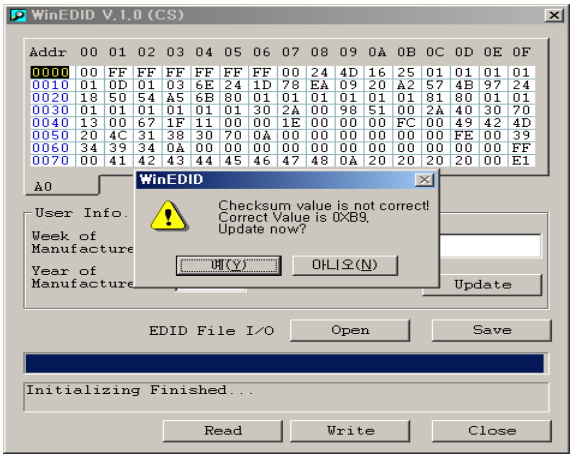


   e) Click Start button.
   f) Click Exit button.

2. EDID Read & Write
   1) Run WinEDID.exe



   2) Edit Week of Manufacture, Year of Manufacture, Serial Number
      a) Input User Info Data
      b) Click "Update" button
      c) Click " Write" button



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SERVICE OSD

1) Turn off the power switch at the front side of the display.

2) Wait for about 5 seconds and press MENU, POWER switch with 1 second interval.

3) The SVC OSD menu contains additional menus that the User OSD menu as described below.

a) Auto Color : W/B balance and Automatically sets the gain and offset value.
b) NVRAM INIT : EEPROM initialize.(24C08)
c) CLEAR ETI : To initialize using time.
d) AGING : Select Aging mode(on/off).
e) R/G/B-9300K : Allows you to set the R/G/B-9300K value manually.
f) R/G/B-6500K : Allows you to set the R/G/B-6500K value manually.
g) R/G/B-Offset : Allows you to set the R/G/B-Offset value manually.(Analog Only)
h) R/G/B-Gain : Allows you to set the R/G/B-Gain value manually.(Analog Only)
i) MODULE : To select applied module.

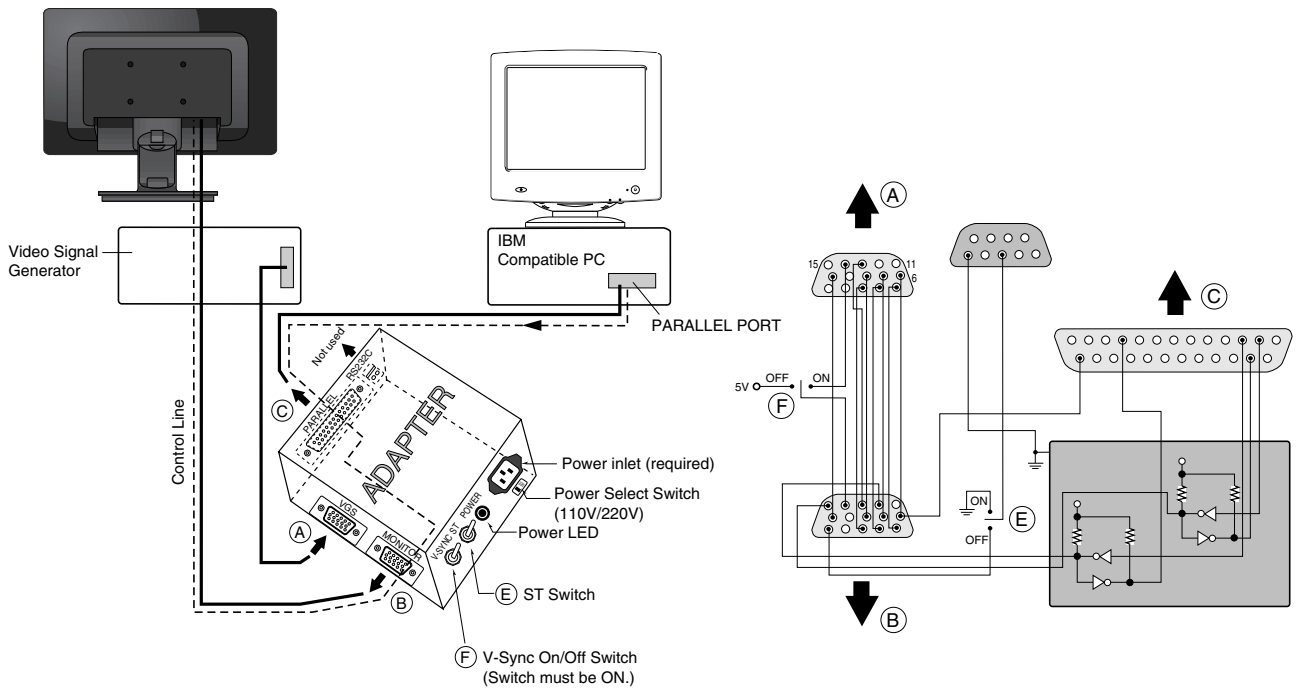

Figure 1. Cable Connection

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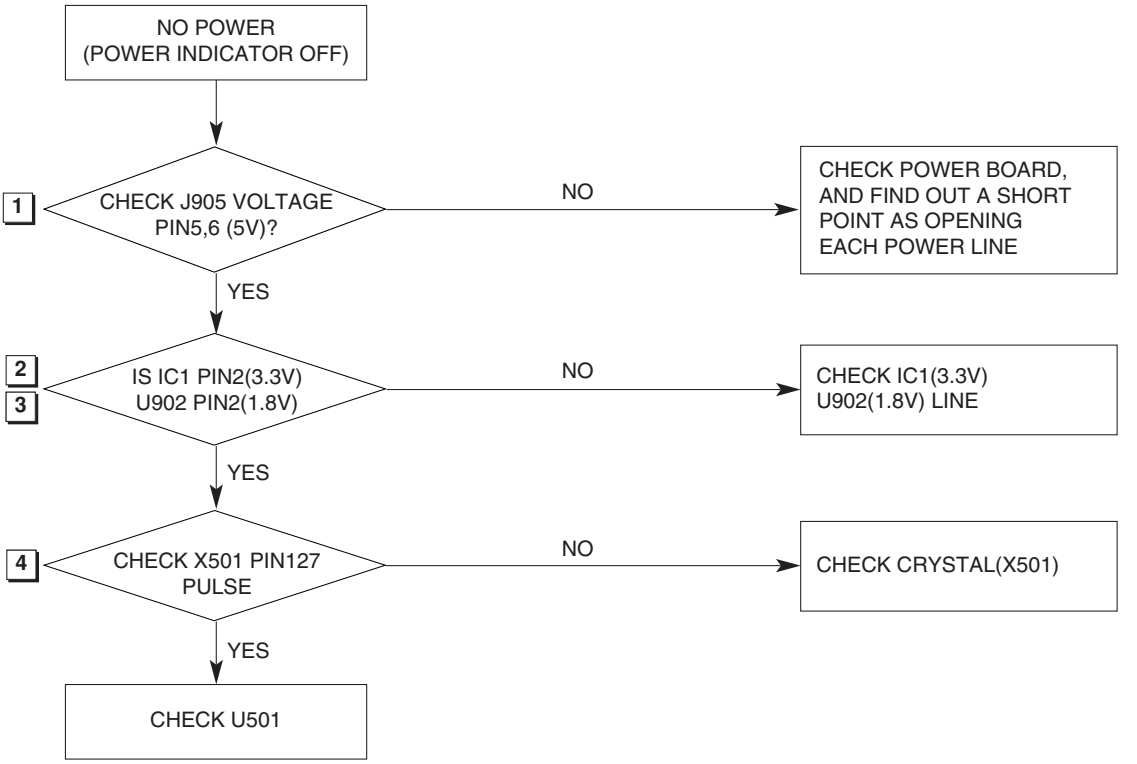
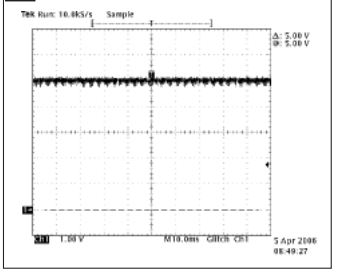
TROUBLESHOOTING GUIDE

1. NO POWER

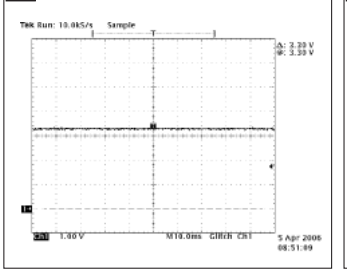


Waveforms

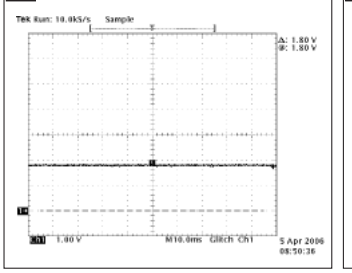
1 J905-#5,6



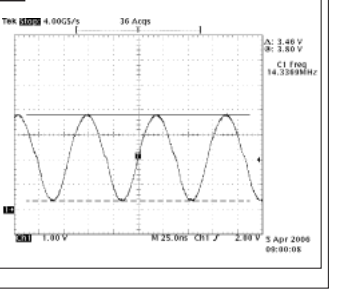
2 IC1-#2



3 U902-#2



4 U501-#127



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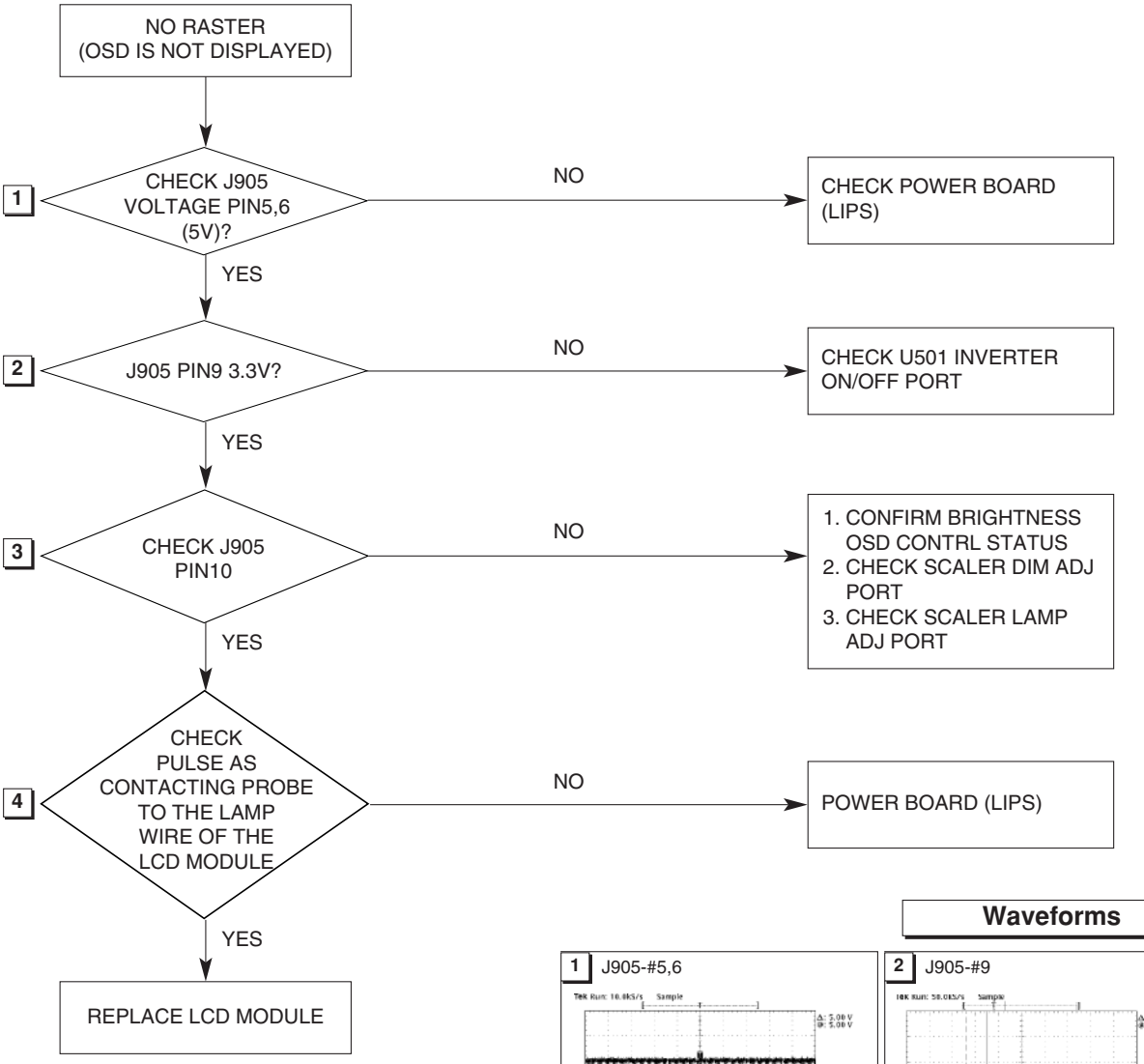
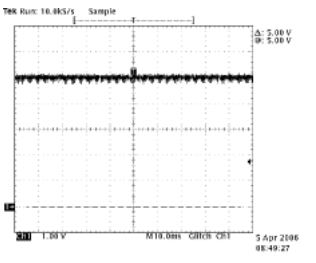
2. NO RASTER (OSD IS NOT DISPLAYED) – LIPS

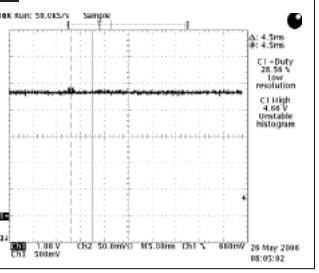


Waveforms

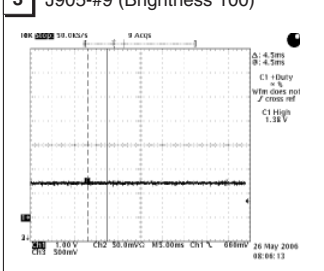
1 J905-#5,6



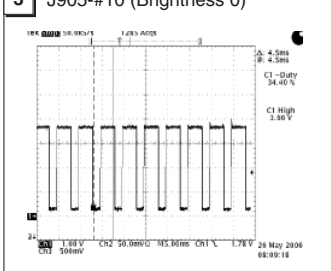
2 J905-#9



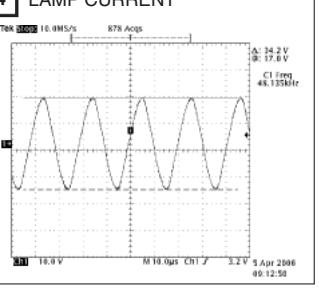
3 J905-#9 (Brightness 100)



3 J905-#10 (Brightness 0)



4 LAMP CURRENT



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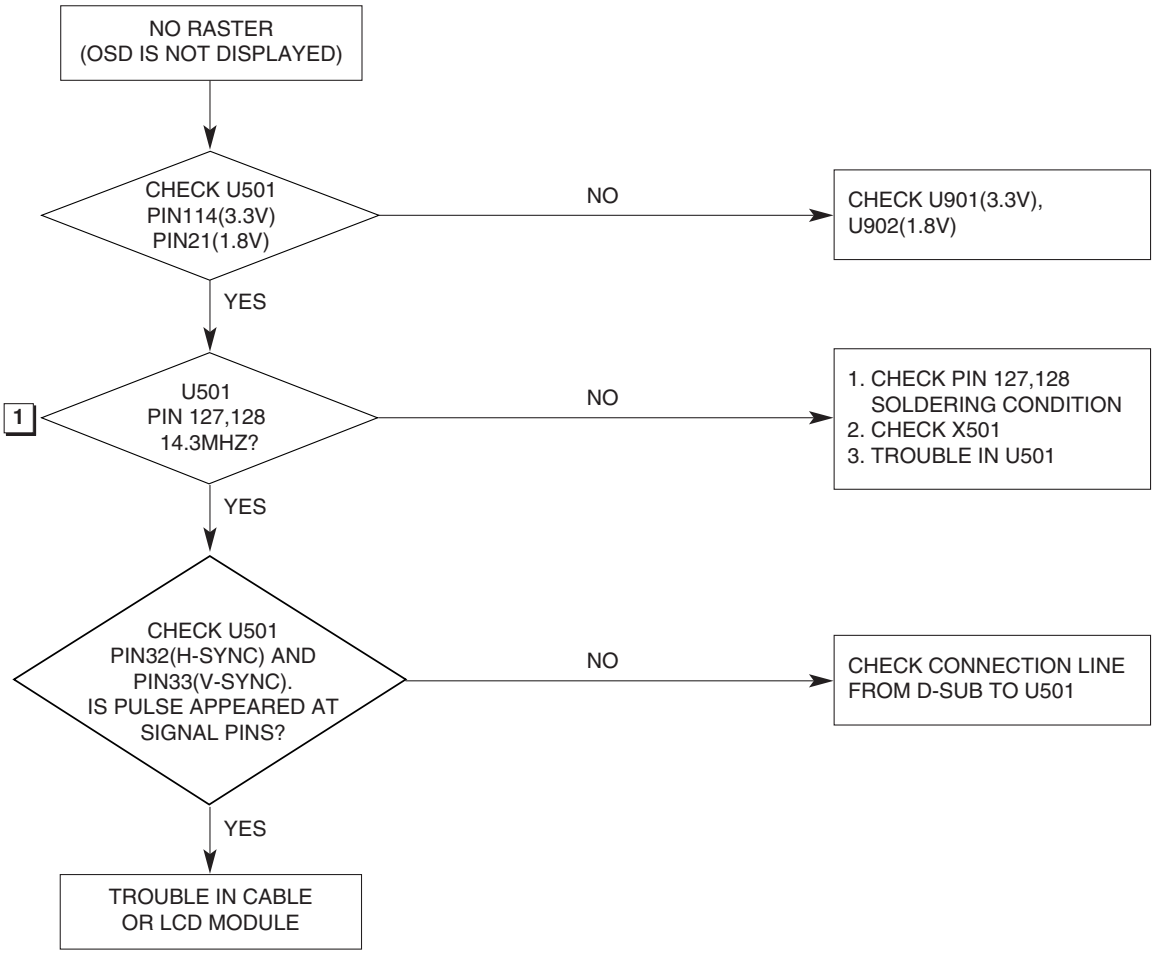
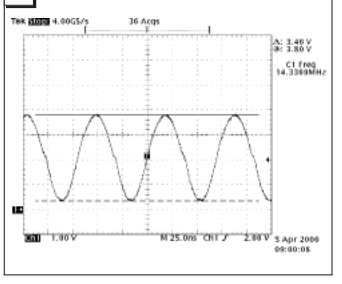
3. NO RASTER (OSD IS NOT DISPLAYED) - MAIN



Waveforms

1 U501-#127



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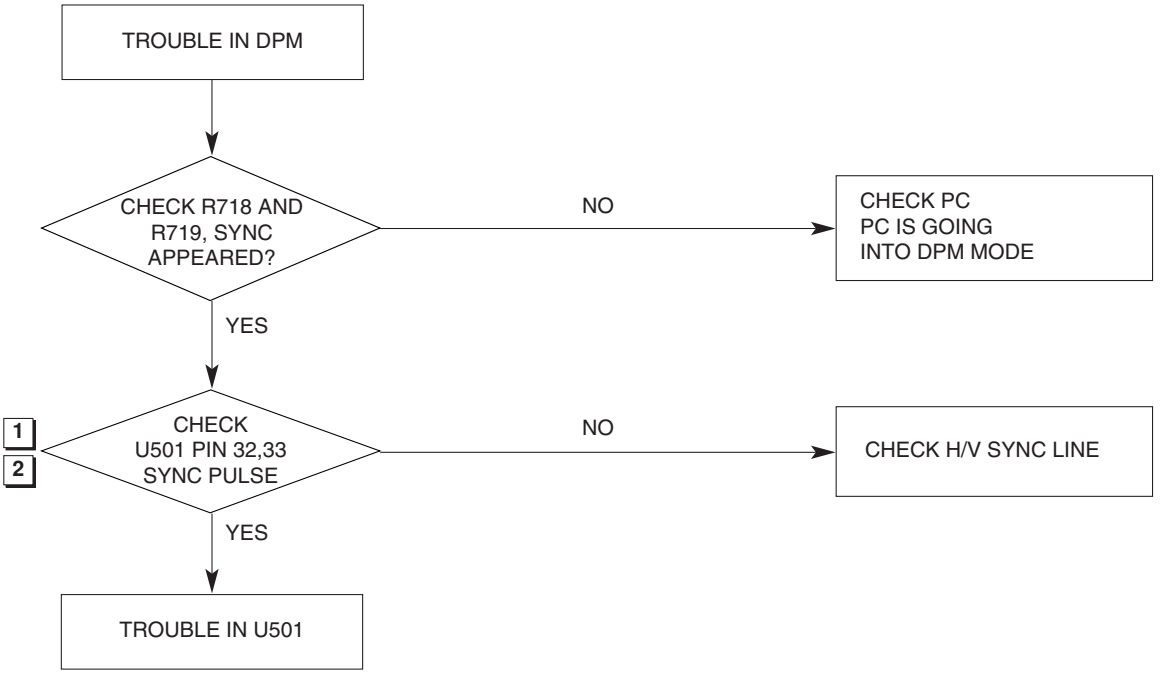
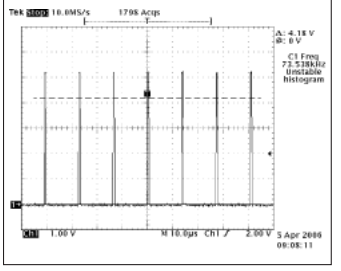
4. TROUBLE IN DPM

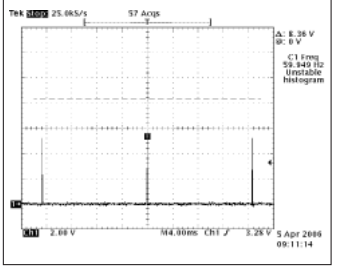


Waveforms

1 H-SYNC



2 V-SYNC



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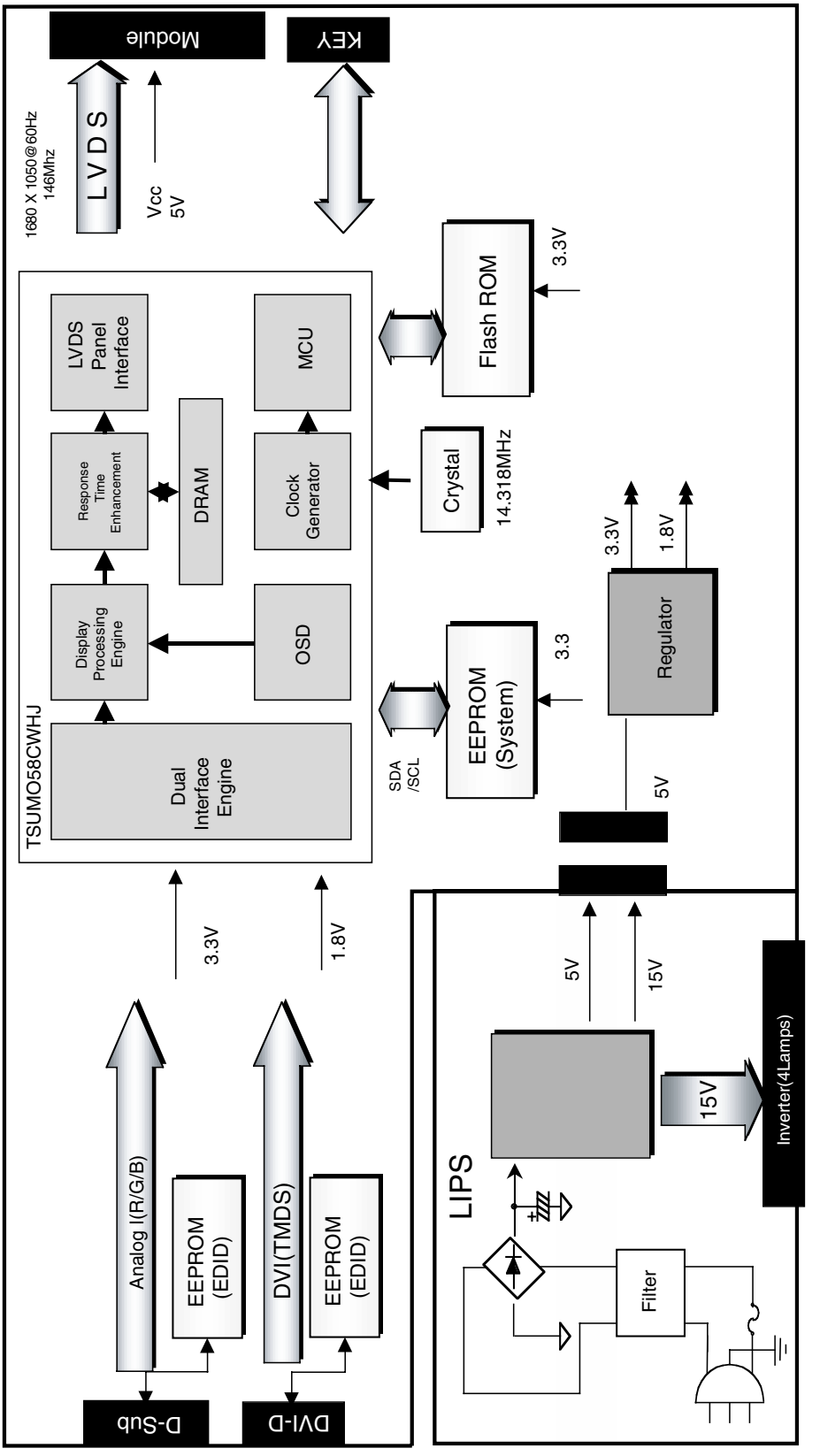
BLOCK DIAGRAM



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DESCRIPTION OF BLOCK DIAGRAM

1. Video Controller Part.

This part amplifies the level of video signal for the digital conversion and converts from the analog video signal to the digital video signal using a pixel clock.
The pixel clock for each mode is generated by the PLL.
The range of the pixel clock is 146MHz In L207WT.
This part consists of the Scaler, ADC converter, TMDS receiver and LVDS transmitter.
The Scaler gets the video signal converted analog to digital, interpolates input to 1680X1050 resolution signal and outputs 8-bit R, G, B signal to transmitter.

2. Power Part.

This part consists of the one 3.3V, and one 1.8V regulators to convert power which is provided 5V in Power board.
15V is provided for inverter in L207WT.
Also, 5V is converted 3.3V and 1.8V by regulator. Converted power is provided for IC in the main board.
The inverter converts from DC 15V to AC 700Vrms and operates back-light lamps of module in L207WT.

3. MICOM Part.

This part is include video controller part. And this part consists of EEPROM IC , control data, Reset IC and the Micom.
The Micom distinguishes polarity and frequency of the H/V sync are supplied from signal cable.
The controlled data of each modes is stored in EEPROM.

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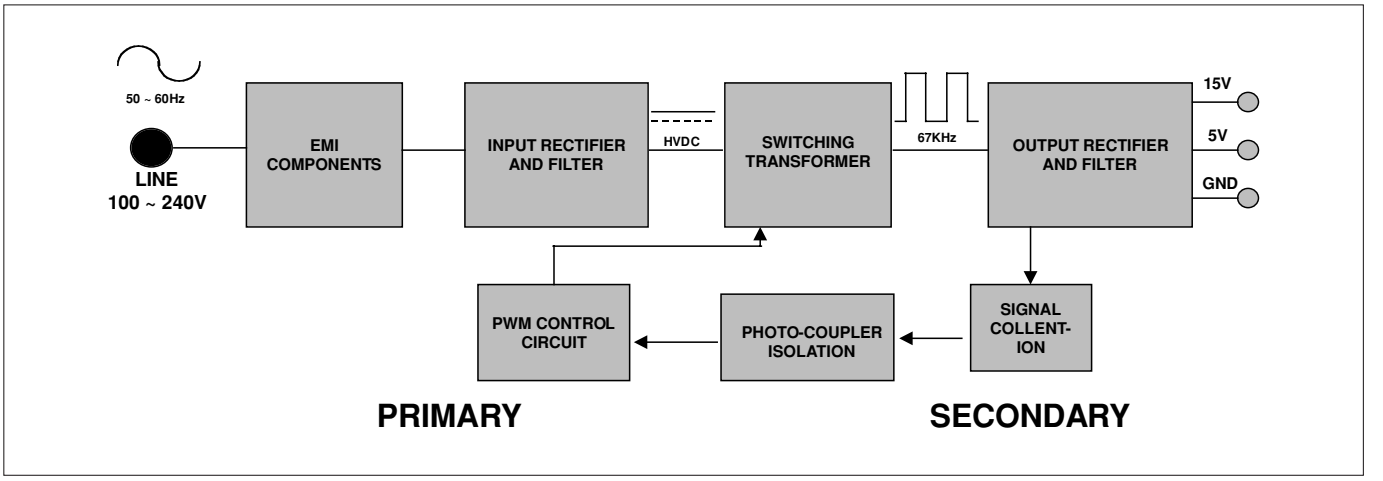
LIPS Board Block Diagram



Operation description_Power

1. EMI components.

This part contains of EMI components to comply with global marketing EMI standards like FCC,VCCI CISPR, the circuit included a line-filter, across line capacitor and of course the primary protection fuse.

2. Input rectifier and filter.

This part function is for transfer the input AC voltage to a DC voltage through a bridge rectifier and a bulk capacitor.

3. Energy Transfer.

This part function is for transfer the primary energy to secondary through a power transformer.

4. Output rectifier and filter.

This part function is to make a pulse width modulation control and to provide the driver signal to power switch, to adjust the duty cycle during different AC input and output loading condition to achieve the dc output stabilized, and also the over power protection is also monitor by this part.

5. Photo-Coupler isolation.

This part function is to feed back the DC output changing status through a photo transistor to primary controller to achieve the stabilized DC output voltage.

6. Signal collection.

This part function is to collect the any change from the DC output and feed back to the primary through photo transistor.

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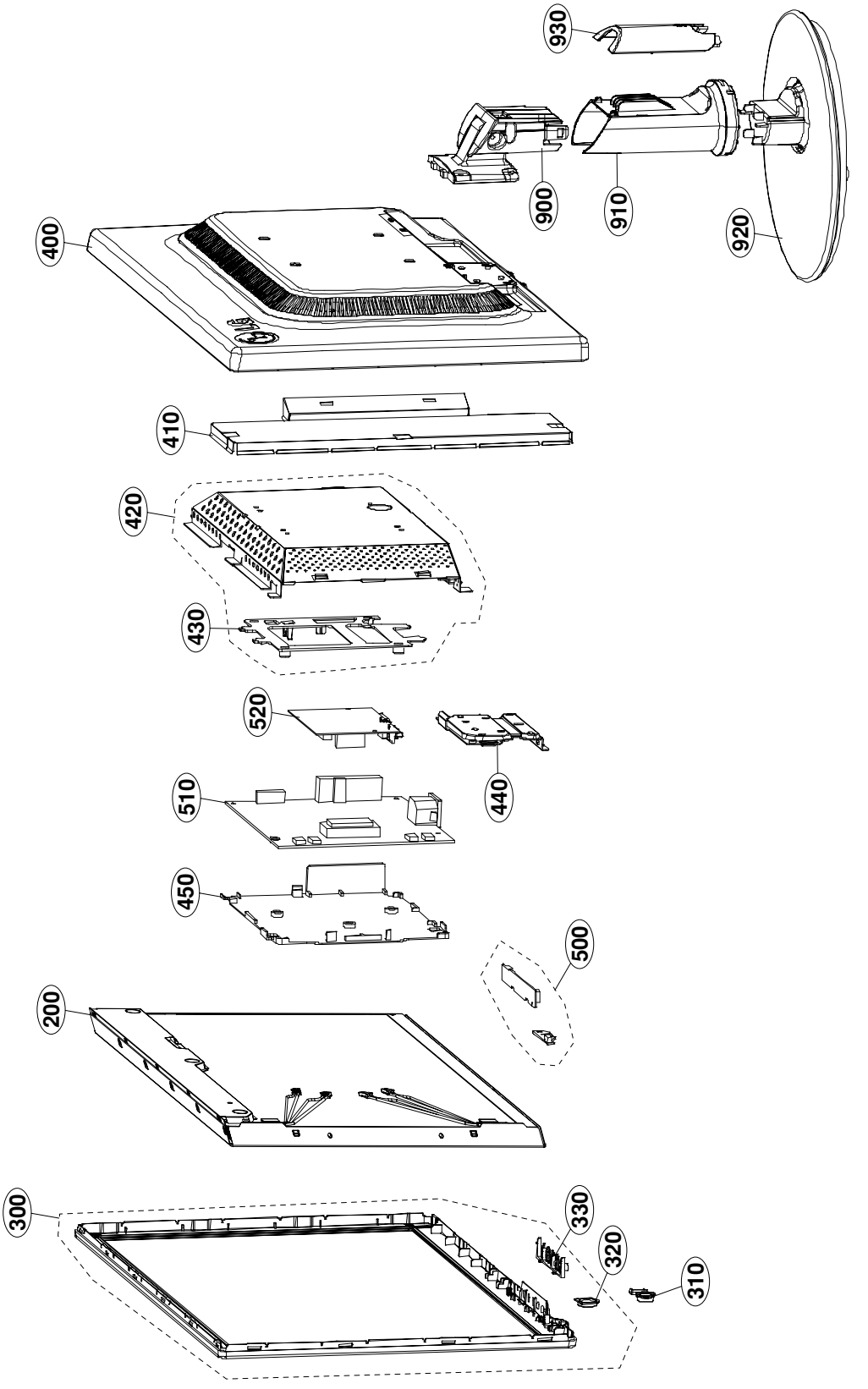
EXPLODED VIEW



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EXPLODED VIEW PARTS LIST

*** Note:** Safety mark ⚠

No.		Part No.	Description
⚠	200	EAJ39826101	LCD,Module-TFT, M201EW02 VC WSXGA 20.1INCH 1680X1050 300CD COLOR 92% 16/10 1000:1 AUO 20"W WCG(92%).Non-Glare, ZBD, 16.7M,Normally White mode, response time 5ms,Viewi
⚠	300	ACQ33735402	Cover Assembly, L207W . 20" Cabinet Ass'y_XG569(01-CKD)
	310	MFB38581401	Lens, MOLD PMMA SAMSUNG TECHWIN LENS Lx72 / Lx7w lens , power LED Knob Double injection Power LED for L1972, Lxx7W
	320	MCK38584101	Cover, MOLD ABS HF-350U L1972, Lx7W ABS L1972,LX7W PIECE DECO RING_VACUUM PLATING
	330	MEY38582301	Knob, MOLD ABS HF-350U SUB TACK KNOB FOR LX7W, L1972 GLOBAL TACK, KNOB CONTROL
⚠	400	ACQ33735602	Cover Assembly,Rear, L207W . 20" Back Cover Ass'y,01-CKD
	410	MGJ39028601	Plate,Metal, PRESS SPTE 0.3 SHIELD SPC L207W LAMP SHIELD
	420	ADV33707206	Frame Assembly, L207W(AUO)/L227W(CMO) LM57B 20" Rear, Frame Assy
	430	MCK38597501	Cover, MOLD PC+ABS L1972 ABS L1972 / L1954 / Lx7W - VESA BRACKET
	440	MGJ38583701	Plate,Metal, PRESS SBHG 1.2 METAL EGI L207W PRESS SBHG 1.2 GUIDE Metal stand bracket
	450	MCK38597701	Cover, MOLD PC+ABS L1972 ABS L1972 / L1954 / Lx7W - LIPS BRACKET
	500	EBR38466401	PCB Assembly,Sub, CONTROL T.T LM74B L197WT-BFS AEUQQPX .
⚠	510	EAY38106001	Power Supply Assembly, AIP-0165 FREE L1954SM/L207W/L227W LCD Lienchang High Version LIEN CHANG ELECTRONIC CO. LTD.
	520	EBU38495201	Main Total Assembly, L207WH-BFS BRAND LM74B
	900	ACQ33707107	Cover Assembly, L1954T,L207W LM57B 20" Cover, Hinge Assy Normal Stand, 01-CKD
⚠	910	MCK38601903	Cover, MOLD ABS L1954/L207W ABS COVER, STAND BODY(01-CKD)
⚠	920	AAN33707002	Base Assembly, BASE L1954T LM57B Normal Stand Base Assy with swivel ring
	930	MCK38602601	Cover MOLD ABS L1954 ABS L1954, COVER CABLE

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REPLACEMENT PARTS LIST

DATE: 2007. 08. 30.

LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
		ACCESSORY
A1	SAB31087001	S/W PackageL197WH EUROPE
A3	EAD37992102	Power CordEAD37992102 LP-34A LS
A4	3171TZ1099T	S/W PackageALL MODEL FORTE MANA
A5	68509F0003A	"Cable,AssemblyD-SUB TO D-SUB UL"
A6	68509J0004A	"Cable,AssemblyDVI-D TO DVI-D UL"
A7	3840TWL027A	CardPRINTING LCD/CRT ALL BRAND
		CAPACITORs
C501	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C502	0CK473CH56A	"Capacitor,Ceramic,ChipC1608X7R1"
C503	0CK473CH56A	"Capacitor,Ceramic,ChipC1608X7R1"
C504	0CK473CH56A	"Capacitor,Ceramic,ChipC1608X7R1"
C505	0CK473CH56A	"Capacitor,Ceramic,ChipC1608X7R1"
C506	0CC102CK41A	"Capacitor,Ceramic,ChipC1608C0G1"
C507	0CK473CH56A	"Capacitor,Ceramic,ChipC1608X7R1"
C508	0CK473CH56A	"Capacitor,Ceramic,ChipC1608X7R1"
C509	0CC270CK41A	"Capacitor,Ceramic,ChipC1608C0G1"
C510	0CC270CK41A	"Capacitor,Ceramic,ChipC1608C0G1"
C511	0CK103CK51A	"Capacitor,Ceramic,Chip0603B103K"
C512	0CK103CK51A	"Capacitor,Ceramic,Chip0603B103K"
C513	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C514	0CK224CF56A	"Capacitor,Ceramic,Chip0603B224K"
C515	0CE106CF638	"Capacitor,AL,RadialSHL5.0TP16VB"
C516	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C517	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C518	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C519	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C520	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C521	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C522	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C523	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C524	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C525	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C526	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C527	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C528	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C529	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C530	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C531	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C532	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C533	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C534	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C535	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C536	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C537	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C538	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C539	0CC080CK11A	"Capacitor,Ceramic,ChipC1608C0G1"
C540	0CC080CK11A	"Capacitor,Ceramic,ChipC1608C0G1"
C541	0CC080CK11A	"Capacitor,Ceramic,ChipC1608C0G1"
C701	0CC101CK41A	"Capacitor,Ceramic,ChipC1608C0G1"
C702	0CC101CK41A	"Capacitor,Ceramic,ChipC1608C0G1"
C703	0CC680CK41A	"Capacitor,Ceramic,ChipC1608C0G1"
C704	0CK104CK56A	"Capacitor,Ceramic,Chip0603B104K"
C705	0CC680CK41A	"Capacitor,Ceramic,ChipC1608C0G1"
C706	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C707	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C708	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C709	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C710	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C711	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C712	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C713	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C714	0CC680CK41A	"Capacitor,Ceramic,ChipC1608C0G1"
C715	0CC680CK41A	"Capacitor,Ceramic,ChipC1608C0G1"
C716	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C717	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C718	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C719	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C720	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C723	0CK104CF56A	"Capacitor,Ceramic,Chip0603B104K"
C724	0CK105CD56A	"Capacitor,Ceramic,ChipC1608X7R1"
C725	0CC101CK41A	"Capacitor,Ceramic,ChipC1608C0G1"
C901	0CK103CK51A	"Capacitor,Ceramic,Chip0603B103K"
C902	0CE107EF610	"Capacitor,AL,RadialKMG16VB100M"
C905	0CE107EF610	"Capacitor,AL,RadialKMG16VB100M"
C906	0CE107EF610	"Capacitor,AL,RadialKMG16VB100M"
C907	0CE107EF610	"Capacitor,AL,RadialKMG16VB100M"
C908	0CK104CK56A	"Capacitor,Ceramic,Chip0603B104K"
C909	0CK104CK56A	"Capacitor,Ceramic,Chip0603B104K"
C910	0CK104CK56A	"Capacitor,Ceramic,Chip0603B104K"
C911	0CK102CK56A	"Capacitor,Ceramic,Chip0603B102K"
C912	0CK102CK56A	"Capacitor,Ceramic,Chip0603B102K"
C913	0CK102CK56A	"Capacitor,Ceramic,Chip0603B102K"
C914	0CE227EF610	"Capacitor,AL,RadialKMG16VB220M"
C915	0CK105CD56A	"Capacitor,Ceramic,ChipC1608X7R1"
C915	0CK475CC94A	"Capacitor,Ceramic,ChipC1608Y5V0"
		DIODEs
D701	0DSIH00018A	"Diode,SwitchingENKMC2837-T112 1"
D702	0DSIH00018A	"Diode,SwitchingENKMC2837-T112 1"
D703	0DSIH00018A	"Diode,SwitchingENKMC2837-T112 1"
D704	0DSIH00018A	"Diode,SwitchingENKMC2837-T112 1"
D705	0DSIH00018A	"Diode,SwitchingENKMC2837-T112 1"
D706	0DSIH00018A	"Diode,SwitchingENKMC2837-T112 1"
D707	0DSIH00018A	"Diode,SwitchingENKMC2837-T112 1"

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LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
D708	0DSIH00018A	"Diode,SwitchingENKMC2837-T112 1"
D709	0DSIH00018A	"Diode,SwitchingENKMC2837-T112 1"
D710	0DSIH00018A	"Diode,SwitchingENKMC2837-T112 1"
D711	0DSIH00018A	"Diode,SwitchingENKMC2837-T112 1"
D712	0DSON00138A	"Diode,SchottkyMMBD301LT1G 600MV"
D713	0DD184009AA	Diode AssemblyKDS184 KDS184 TP
D714	0DSON00138A	"Diode,SchottkyMMBD301LT1G 600MV"
D715	0DD184009AA	Diode AssemblyKDS184 KDS184 TP
ZD1	0DZ560009GB	"Diode,ZenerBZT52C5V6S-(F) 5.6V"
ZD2	0DZ560009GB	"Diode,ZenerBZT52C5V6S-(F) 5.6V"
ZD3	0DZ560009GB	"Diode,ZenerBZT52C5V6S-(F) 5.6V"
ZD4	0DZ560009GB	"Diode,ZenerBZT52C5V6S-(F) 5.6V"
ZD701	0DZ560009GB	"Diode,ZenerBZT52C5V6S-(F) 5.6V"
ZD702	0DZ560009GB	"Diode,ZenerBZT52C5V6S-(F) 5.6V"
ZD703	0DZ560009GB	"Diode,ZenerBZT52C5V6S-(F) 5.6V"
ZD704	0DZ560009GB	"Diode,ZenerBZT52C5V6S-(F) 5.6V"
ZD705	0DZ560009GB	"Diode,ZenerBZT52C5V6S-(F) 5.6V"
ZD708	0DZ560009GB	"Diode,ZenerBZT52C5V6S-(F) 5.6V"
ZD709	0DZ560009GB	"Diode,ZenerBZT52C5V6S-(F) 5.6V"
ZD710	0DZ560009GB	"Diode,ZenerBZT52C5V6S-(F) 5.6V"
ICs		
IC1	0IPMGA0010A	"IC,LDO Voltage RegulatorAZ1117H"
U501	0IPRP00784C	"IC,Video ProcessorsFE253MOH-LF"
U502	EAN38496701	IC AssemblyL207WH-BFS Micom Ass
U503	0IMMRSG036B	"IC,EEPROMM24C16-WMN6TP 16KBIT 2"
U701	0IMMR00014A	"IC,EEPROMM24C02-RMN6TP 2KBIT 25"
U702	0IMMR00014A	"IC,EEPROMM24C02-RMN6TP 2KBIT 25"
U902	0IPMG78403A	"IC,LDO Voltage RegulatorAZ1086S"
FILTERs		
L901	0LCML00003B	"Filter,BeadMLB-201209-0120P-N2"
L902	0LCML00003B	"Filter,BeadMLB-201209-0120P-N2"
L903	0LCML00003B	"Filter,BeadMLB-201209-0120P-N2"
TRANSISTORs		
Q501	0TR390409AE	"TR,BipolarKST3904 NPN 6V 60V 40"
Q701	0TR390609FA	"TR,BipolarKST3906-MTF PNP -5V -"
Q702	0TR390609FA	"TR,BipolarKST3906-MTF PNP -5V -"
Q901	EBK39150701	"TR,BipolarKTA1241 PNP -8V -35V"
Q902	0TR390409AE	"TR,BipolarKST3904 NPN 6V 60V 40"
RESISTORs		
R1	0RJ7501D677	"Resistor,ChipMCR03EZPJ752 7.5KO"
R2	0RJ7501D677	"Resistor,ChipMCR03EZPJ752 7.5KO"
R3	0RJ1201D677	"Resistor,ChipMCR03EZPJ122 1.2KO"
R4	0RJ1801D677	"Resistor,ChipMCR03EZPJ182 1.8KO"
R5	0RJ1201D677	"Resistor,ChipMCR03EZPJ122 1.2KO"
R501	0RJ1000D677	"Resistor,ChipMCR03EZPJ101 100OH"
R502	0RJ0562D677	"Resistor,ChipMCR03EZPJ560 56OHM"

LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
R503	0RJ1000D677	"Resistor,ChipMCR03EZPJ101 100OH"
R504	0RJ0562D677	"Resistor,ChipMCR03EZPJ560 56OHM"
R505	0RJ4700D677	"Resistor,ChipMCR03EZPJ471 470OH"
R506	0RJ1000D677	"Resistor,ChipMCR03EZPJ101 100OH"
R507	0RJ0562D677	"Resistor,ChipMCR03EZPJ560 56OHM"
R508	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R509	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R510	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R511	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R512	0RJ4700D677	"Resistor,ChipMCR03EZPJ471 470OH"
R513	0RJ4700D677	"Resistor,ChipMCR03EZPJ471 470OH"
R516	0RJ3900D677	"Resistor,ChipMCR03EZPJ391 390OH"
R517	0RJ1002D677	"Resistor,ChipMCR03EZPJ103 10KOH"
R518	0RJ0000D677	"Resistor,ChipMCR03EZPJ000 0OHM"
R519	0RJ1502D677	"Resistor,ChipMCR03EZPJ153 15KOH"
R522	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R523	0RJ1000D677	"Resistor,ChipMCR03EZPJ101 100OH"
R524	0RJ1002D677	"Resistor,ChipMCR03EZPJ103 10KOH"
R525	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R526	0RJ0332D677	"Resistor,ChipMCR03EZPJ330 33OHM"
R527	0RJ0332D677	"Resistor,ChipMCR03EZPJ330 33OHM"
R530	0RJ1002D677	"Resistor,ChipMCR03EZPJ103 10KOH"
R6	0RJ1801D677	"Resistor,ChipMCR03EZPJ182 1.8KO"
R701	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R702	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R703	0RJ0332D677	"Resistor,ChipMCR03EZPJ330 33OHM"
R704	0RJ0102D677	"Resistor,ChipMCR03EZPJ100 10OHM"
R705	0RJ0102D677	"Resistor,ChipMCR03EZPJ100 10OHM"
R706	0RJ0102D677	"Resistor,ChipMCR03EZPJ100 10OHM"
R707	0RJ0102D677	"Resistor,ChipMCR03EZPJ100 10OHM"
R708	0RJ0102D677	"Resistor,ChipMCR03EZPJ100 10OHM"
R709	0RJ0102D677	"Resistor,ChipMCR03EZPJ100 10OHM"
R710	0RJ0332D677	"Resistor,ChipMCR03EZPJ330 33OHM"
R711	0RJ0000D677	"Resistor,ChipMCR03EZPJ000 0OHM"
R712	0RJ0102D677	"Resistor,ChipMCR03EZPJ100 10OHM"
R713	0RJ0102D677	"Resistor,ChipMCR03EZPJ100 10OHM"
R714	0RJ1001D677	"Resistor,ChipMCR03EZPJ102 1KOHM"
R715	0RJ0000D677	"Resistor,ChipMCR03EZPJ000 0OHM"
R716	0RJ0332D677	"Resistor,ChipMCR03EZPJ330 33OHM"
R717	0RJ0752D677	"Resistor,ChipMCR03EZPJ750 75OHM"
R718	0RJ0682D677	"Resistor,ChipMCR03EZPJ680 68OHM"
R719	0RJ0682D677	"Resistor,ChipMCR03EZPJ680 68OHM"
R720	0RJ0332D677	"Resistor,ChipMCR03EZPJ330 33OHM"
R721	0RJ0752D677	"Resistor,ChipMCR03EZPJ750 75OHM"
R722	0RJ0752D677	"Resistor,ChipMCR03EZPJ750 75OHM"
R723	0RJ0000D677	"Resistor,ChipMCR03EZPJ000 0OHM"
R724	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R725	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R726	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R727	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R728	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R729	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R730	0RJ2200D677	"Resistor,ChipMCR03EZPJ221 220OH"
R731	0RJ2200D677	"Resistor,ChipMCR03EZPJ221 220OH"

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LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
R732	0RJ1000D677	"Resistor,ChipMCR03EZPJ101 100OH"
R733	0RJ1000D677	"Resistor,ChipMCR03EZPJ101 100OH"
R735	0RJ2001D677	"Resistor,ChipMCR03EZPJ202 2KOHM"
R736	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R737	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R738	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R739	0RJ4701D677	"Resistor,ChipMCR03EZPJ472 4.7KO"
R903	0RJ1002D677	"Resistor,ChipMCR03EZPJ103 10KOH"
R904	0RJ2001D677	"Resistor,ChipMCR03EZPJ202 2KOHM"
R904	0RJ3601D677	"Resistor,ChipMCR03EZPJ362 3.6KO"
R905	0RJ3900D677	"Resistor,ChipMCR03EZPJ391 390OH"
R906	0RH1002D622	"Resistor,ChipMCR10EZHJ103 10KOH"
R907	0RX0331K668	"Resistor,Metal Oxide FilmRSD02F"
R909	0RJ0000D677	"Resistor,ChipMCR03EZPJ000 0OHM"
R910	0RJ0000D677	"Resistor,ChipMCR03EZPJ000 0OHM"
R911	0RJ1002D677	"Resistor,ChipMCR03EZPJ103 10KOH"
R912	0RJ3900D677	"Resistor,ChipMCR03EZPJ391 390OH"
		CONNECTORs
C1	6631900109A	"Harness,Single(FOOSUNG)DCE153B-"
C2	6631V12031A	"Harness,Single4P CONNECTOR ASSY"
C3	6631T20023J	"Harness,Single11P(2.0MM) SMH200"
C4	EAD30368603	"Harness,Singleconnector assy(L2"
J1	6602T12005E	"Connector,Wafer12505WR-06A00 6P"
J2	6602T12005C	"Connector,Wafer12505WR-04A00 4P"
J3	6602T12004C	"Connector,Wafer12505WS-04A00 4P"
J901	6630TGA005B	"Connector,DSUBQH11121-DN0-D DVI"
J902	6630TGA004F	"Connector,DSUBKCN-DS-3-0062 D-S"
J905	6602T20008K	"Connector,WaferSMW200-11P 11P 2"
J906	6630V90219A	"Connector,WaferSMW200-28C 28P 2"
J907	6602T12004E	"Connector,Wafer12505WS-06A00 6P"
		SWITCHs
SW1	6600R00004C	"Switch,TactJTP1127WEM 1C1P 15VD"
SW2	6600R00004C	"Switch,TactJTP1127WEM 1C1P 15VD"
SW3	6600R00004C	"Switch,TactJTP1127WEM 1C1P 15VD"
SW4	6600R00004C	"Switch,TactJTP1127WEM 1C1P 15VD"
SW5	6600R00004C	"Switch,TactJTP1127WEM 1C1P 15VD"
SW6	6600R00004C	"Switch,TactJTP1127WEM 1C1P 15VD"
		OTHERs
B1	3890TKD002P	BoxLB500J(PCB) BRAND 542*397*44
B2	3890TKD002P	BoxLB500J(PCB) BRAND 542*397*44
B3	MAY39104501	BoxBOX SW 523 140 397 2 COLOR L
D1	0DLBE0048AA	"LED,ChipBL-HKBB533B-TRB SUPER Y"
P1	3918TKK038Z	Packing(1140*1054) CARTON PLATE
P10	3918TKK040A	Packing542*70 MAIN PCB(B)
P11	3918TKK040B	Packing397*70 LB500J MAIN PCB(S
P2	407-Q31U	PackingL=1084.0 SYNTHETIC-PAPER
P3	MFZ38956601	PackingMOLD EPS L207WT EPS L207
P4	3918TKK038J	Packing538*390 LB500J PCB

LOC. NO.	PART NO.	DESCRIPTION / SPECIFICATION
P5	3918TKK040A	Packing542*70 MAIN PCB(B)
P6	3918TKK040B	Packing397*70 LB500J MAIN PCB(S
P7	3918TKK007H	PackingBOX DW 1184 984 1100 1 C
P8	3918TKK038J	Packing538*390 LB500J PCB
P9	3918TKK038N	Packing(1200*940) OX93 FOR SONY
X501	6212AA2004F	CrystalHC-49/U 14.31818MHZ 30PP

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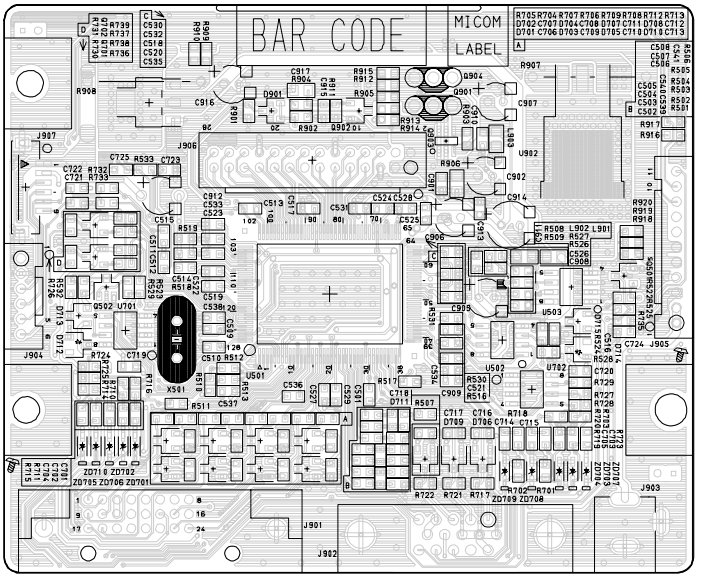
PRINTED CIRCUIT BOARD

MAIN (TOP)



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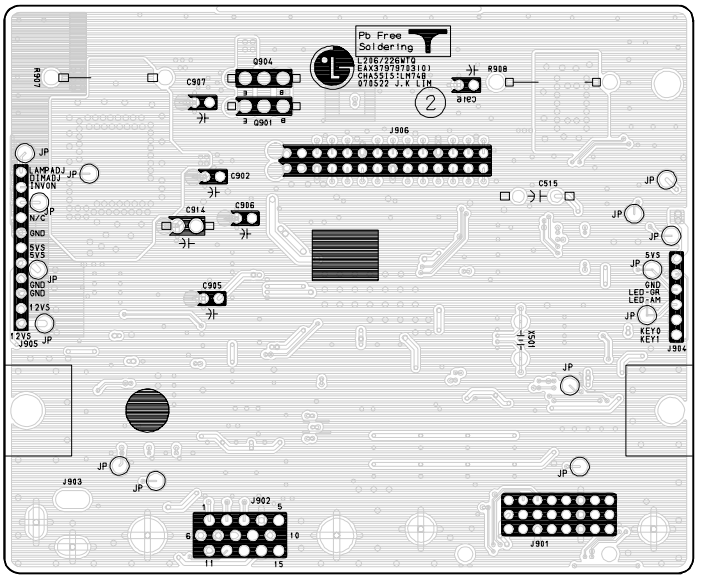

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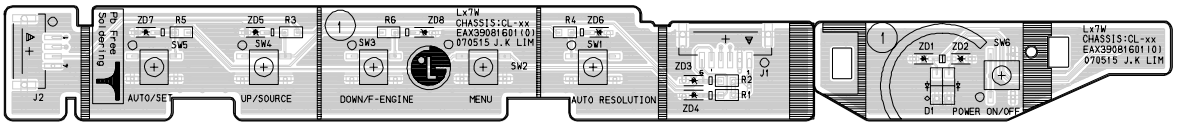
CONTROL (TOP)



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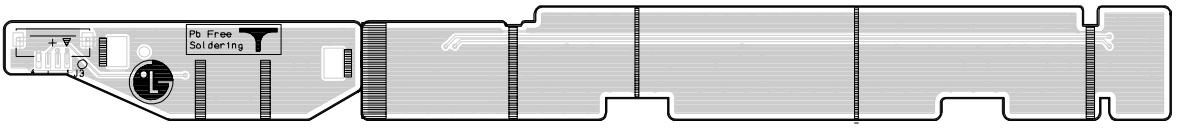

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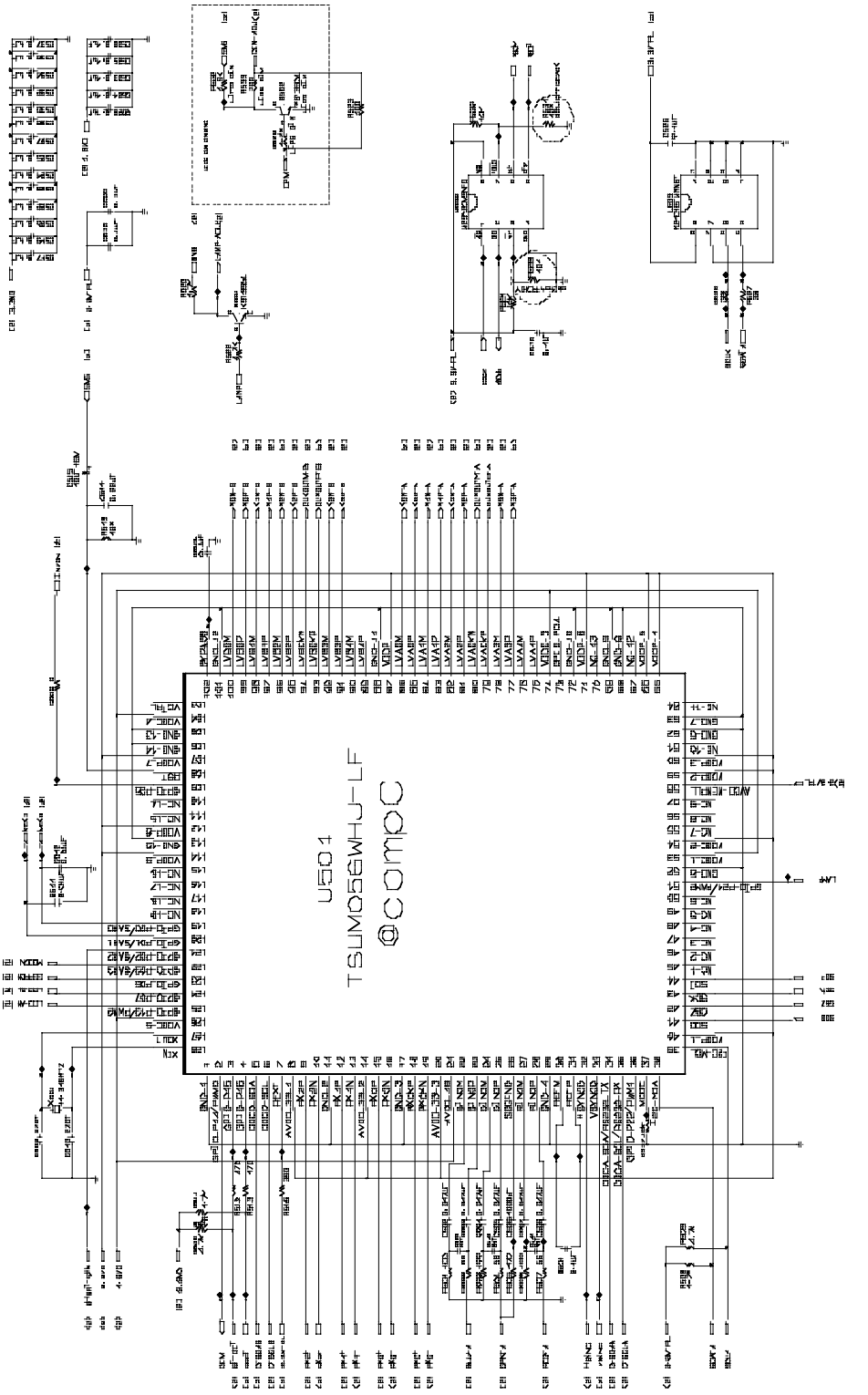
1. SCALER



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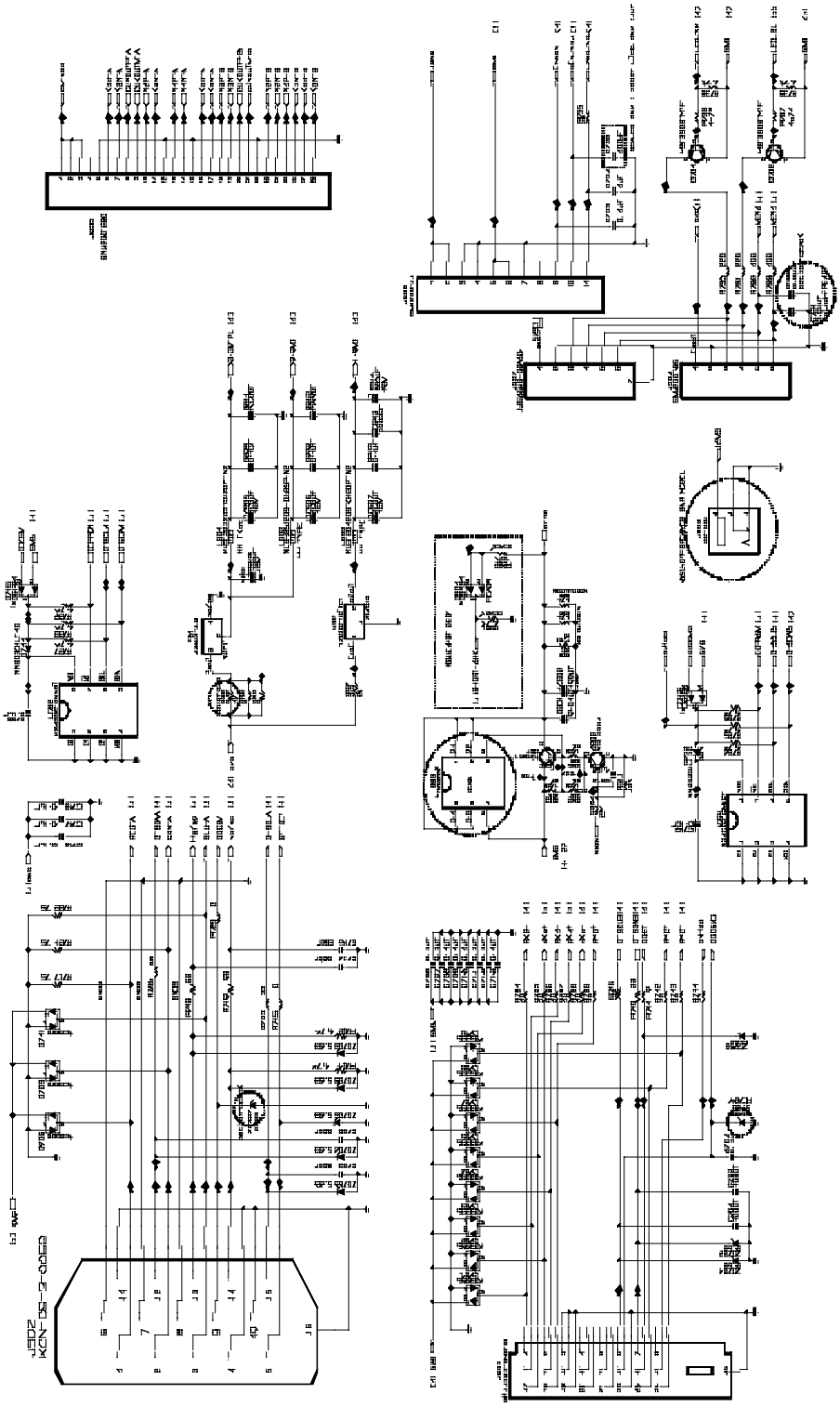
2. POWER & WAFER



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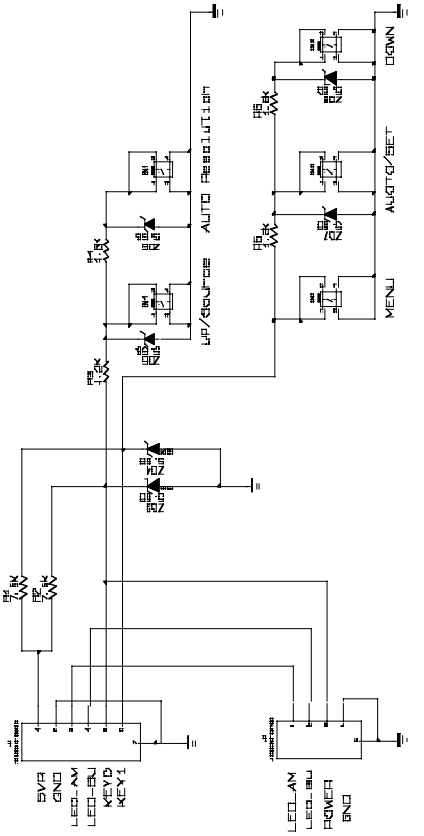
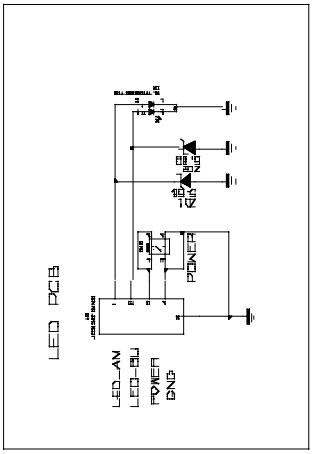
3. CONTROL





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